Chemistry and Technology of Water-soluble Polymers: edited by C.A. FINCH, Plenum Press, New York, 1983, xvi + 358 pages, $55.00.

Originally produced as a course manual for the Royal Society of Chemistry Residential School at Newnham College, Cambridge, UK, in September 1981, but now published in a rewritten version by the group of tutors on the course, this book does not appear at first glance to be of any benefit to carbohydrate chemists. However, such glances are misleading, particularly when it is realized that, of the 5 million tons of water-soluble polymers estimated to be produced annually, 80–90% are carbohydrate-based (including starches and natural gums), with an additional 0.3 kton of cellulose ethers. This compares with less than 0.5 kton per year of poly(acrylamide)- and poly(vinyl alcohol)-based polymers, which are normally considered as being the only water-soluble polymers. The aim of this book (and of the original Residential School) is to bridge the gap that exists between the "real polymer scientists" and biochemists, and to review the scientific principles involved and their application in modern technologies.

The book is divided into 19 chapters, each dealing with a specific aspect of the subject, which, after a review and classification of the basic types of water-soluble polymers, range from theoretical considerations of thermodynamics, rheology, hydration, gelation, and the effects of polyelectrolytes and solvents to the more practical aspects of polymerization methods, crosslinking reactions, fractionation and characterization, and specific oil-industry, medical, and pharmaceutical applications, with a minimum of overlap and repetition between contributions. Each chapter is clearly written, with sufficient Tables, diagrams, and structures to illustrate the text without detracting from the readability of the text. Each chapter is concluded with a reference section representing coverage of the literature of the 1960's and 1970's, with a few references from the early 1980's. This lack of very recent literature references is not, however, a major deficiency in a book of this nature, which deals with principles rather than specific examples, the latter being used by way of illustration of basic principles. Considering the complexity of the subject, the text is free from major errors, and the number of minor (typographical) errors is very low.

This volume is essential reading for those biochemists and chemists working with biopolymers who require information on solution properties and behaviour of these materials, and it should be found in the laboratory of chemists, biochemists, engineers, and technologists in those industries using carbohydrate, protein, and synthetic polymers. The book is also an excellent teaching aid for academics, and should be required reading for students of chemistry, biochemistry, and food technology. The editor and the other course tutors are to be congratulated for their

decision to bring the world of "real polymer science" to mere mortal biochemists. They bridge the gap between "know-how" and "know-why" in a very pleasant way.

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Proceedings of the First International Symposium on Cyclodextrins, edited by J. SZEJTLI, D. Reidel Publishing Co., Dordrecht, Holland, 1982, xiii + 531 pages + Author and Subject Indexes, $84.50, Dfl. 195.00.

This work is a collection of fifty-two papers and eleven abstracts reporting the work presented at the First International Symposium on Cyclodextrins held in Budapest, Hungary, in the Fall of 1981. As is common with such collections, it is a direct reproduction of the authors' typewritten reports, and, as such, possesses the drawbacks arising from the lack of control over style and typographical errors, and from the lack of uniformity. Moreover, although all of the papers are in English, it is clear from the reading that, in many cases, this is not the authors' native tongue. However, the editor and the authors are to be commended for making the proceedings of the conference available to the many who could not attend. (Incidentally, the preferred name for a cyclodextrin is now cyclomaltopolyose, but, the former name being rather well entrenched, this reviewer will retain its use in this review.)

Since there are so many articles, the majority are necessarily brief. This brevity, and the fact that there is such a wide range of topics covered, ranging from animal studies to physical properties, makes it impossible for a single reviewer to assess the scientific merit of all that is reported. In approaching this work, one should not expect to find complete and polished research papers, but rather, sketchy outlines of work in progress. Undoubtedly, this was the intention of the authors and is the principal merit of a volume like this. It gives an up-to-date (at the time of the conference) account of work under way in the laboratories of the participants. This particular volume also makes readily available some details about work which has been published in journals and reports not readily accessible.

A good subtitle for the work would be "Cyclodextrins, Their Place in Commerce". The vast majority of the articles represent reports of studies of useful applications, or studies of properties and behavior, of cyclodextrins in the context of practical applications. The utility of cyclodextrins flows, of course, from their ability to form inclusion complexes with a variety of molecules in the solid state and in solution. Subjects discussed range from the toxicity and metabolism of cyclodextrins, through the methods of their production industrially, the stability of their